OSWER Innovations Pilot

Testing Chemical Management Services in Schools

In December 2001, the Office of Solid Waste and Emergency Response (OSWER) initiated a series of innovative pilots to test new ideas and strategies for environmental and public health protection to make OSWER programs more efficient, effective, and user-friendly. A small amount of money is set aside to fund creative proposals testing approaches to waste minimization, energy recovery, recycling, and land revitalization that may be replicated across various sectors, industries, communities, and regions. We hope these pilots will pave the way for programmatic and policy recommendations by demonstrating the environmental and economic benefits of creative, innovative approaches to the difficult environmental challenges we face today.

BACKGROUND

Secondary schools, colleges, and universities use chemicals as part of their education and research programs. Traditionally, the institutions themselves manage these toxic chemicals. Chemical use, storage, disposal, and release needs to be tracked and reported, institutions need to be prepared to respond to chemical spills, and chemical waste needs to be handled, stored, and disposed of properly. Schools struggle with large storerooms of unused chemicals, requirements to purchase large volumes of chemicals when only using a few ounces are necessary, and waste challenges. EPA Regional enforcement initiatives targeting universities show that schools have inadequate levels of chemical management. In response, schools are struggling to find effective approaches to better manage chemicals and their waste.

The Chemical Strategies Partnership (CSP), a nonprofit project of the Canopy Institute, was founded in 1996 to promote "chemical management services" (CMS), a market-based model to improve chemical management and reduce chemical waste. CMS has been successfully applied in the auto, electronics, aerospace, airline, and metalworking industries. The CMS model represents a fundamental shift in the relationship between chemical users and chemical suppliers. Traditionally, chemical suppliers sell chemicals to their customers on a volume basis–the greater the volume, the greater their profits. The CMS model seeks to change this transaction from a volume and sales orientation to a service orientation. Suppliers become service providers and are paid one fee to both purchase and manage chemicals for the institution. In the CMS model, financial incentives are built into the contracts with chemical suppliers to reward them for successfully reducing waste and identifying benign alternatives to toxic chemicals. By changing the profit driver for the supplier, the incentive is built in for long-term waste reduction and a cooperative relationship is established for future creative environmental problem solving. CSP is conducting a pilot project with the Stanford Linear Accelerator Center, which has indicated that there may be CMS-based solution for schools.

PILOT APPROACH

U.S. EPA Region 9, in partnership with CSP, a major university in Region 9, and chemical suppliers, will test the potential for CMS to enable schools and universities to go beyond compliance, better manage their chemicals, and reduce their waste. CSP currently is conducting the first phase of research under an existing grant to learn about university "best practices" in chemical management. This Pilot will build upon CSP's initial research efforts.

CSP and EPA will conduct an introductory CMS seminar in Region 9 to recruit a Pilot school. Ideal candidates for the Pilot are universities who have large research facilities and who are in the process of evaluating options to improve their chemical management. Several major universities in the Region have expressed interest in participating. The Pilot then will establish a team of university stakeholders, who will help guide the project and ensure the right people

are consulted in collecting data. Baseline data on chemical management costs and systems will be developed and the costs for each stage of the chemical life cycle will be estimated. A final report will include the baseline cost analysis and the potential costs and benefits of a CMS program. If requested, assistance will be provided to the university in engaging a CMS provider.

INNOVATION

CMS is a proven innovative approach in the manufacturing sector that has not yet been introduced into the school setting. The customer must rethink the way they manage chemicals and trust a service provider to help them. This is a major barrier to introducing CMS, particularly in the university/school setting where chemical purchases and management is highly decentralized.

BENEFITS

Eighty percent of companies employing the CMS model report chemical use reduction. Chemical management service providers have proven they can improve inventory management, work with chemical manufacturers to reduce container size and repackage products, and reduce waste. CMS providers also can provide improved environmental information, which is used to track progress against specific goals set by the customer.

CONTACTS

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For additional information, visit the EPA OSWER Innovations web site at: www.epa.gov/oswer/IWG.htm.

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